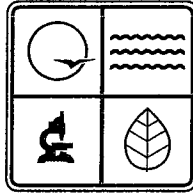


STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI AIR CONSERVATION COMMISSION



PERMIT BOOK

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **022006-014**

Project Number: **2005-09-099**

Owner: **Doane Pet Care**

Owner's Address: **P.O. Box 2487, Brentwood, TN 37024-2487**

Installation Name: **General Steel Fabricators**

Installation Address: **927 South Schifferdecker Avenue, Joplin, MO 64801**

Location Information: **Jasper County, S8, T27N, R33W**

Application for Authority to Construct was made for:

Construction of metal fabricating operations. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

☐ Standard Conditions (on reverse) are applicable to this permit.

☒ Standard Conditions (on reverse) and Special Conditions (listed as attachments starting on page 2) are applicable to this permit.

EFFECTIVE DATE

FEB 16 2006

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional Office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

~~You may appeal this permit or any of the listed Special Conditions as provided in RSMo 643.075. If you choose to appeal, the Air Pollution Control Program must receive your written declaration within 30 days of receipt of this permit.~~

If you choose not to appeal, this certificate, the project review, your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Department of Natural Resources has established the Outreach and Assistance Center to help in completing future applications or fielding complaints about the permitting process. You are invited to contact them at 1-800-361-4827 or (573) 526-6627, or in writing addressed to Outreach and Assistance Center, P.O. Box 176, Jefferson City, MO 65102-0176.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention Construction Permit Unit.

Page No.	2
Permit No.	
Project No.	2005-09-099

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

General Steel Fabricators
Jasper County, S8, T27N, R33W

1. Emission Limitations
 - A. General Steel Fabricators shall emit less than 40 tons of Volatile Organic Compounds (VOCs) from the surface coating operations (EP-SC1 and EP-SC2) in any consecutive 12-month period.
 - B. General Steel Fabricators shall emit less than ten (10) tons individually or twenty-five (25) tons combined of Hazardous Air Pollutants (HAPs) from the surface coating operations (EP-SC1 and EP-SC2) in any consecutive 12-month period.
 - C. General Steel Fabricators shall emit less than five (5) tons of glycol ethers from the surface coating operations (EP-SC1 and EP-SC2) in any consecutive 12-month period, except for those glycol ethers specifically listed in Attachment H.
 - D. General Steel Fabricators shall emit less than 15 tons of particulate matter less than ten (10) microns in diameter (PM₁₀) from the surface coating operations (EP-SC1 and EP-SC2), abrasive blasting operations (F-AB), and welding operations (F-W) in any consecutive 12 month period.
 - E. When considering using a new coating in the surface coating operations (EP-SC1 and EP-SC2) that is different to those listed in the Application for Authority to Construct, General Steel Fabricators must calculate the potential emissions for each individual HAP in the alternative coating that has a Screen Modeling Action Level (SMAL) as listed in Attachment C. If the potential HAP emissions for the alternative paint exceeds the Screen Modeling Action Levels (SMAL), then General Steel Fabricators must seek approval from the Air Pollution Control Program before use of the alternative coating.
 - F. Attachment A, Attachment B, Attachment C, Attachment D, Attachment E, and Attachment F or equivalent forms approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special

Page No.	3
Permit No.	
Project No.	2005-09-099

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

Conditions 1(A), 1(B), 1(C), 1(D), and 1(E). General Steel Fabricators shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include Material Safety Data Sheets (MSDS) for all materials used in this equipment.

- G. General Steel Fabricators shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, Missouri 65102, no later than ten (10) days after the end of the month during which the records from Special Condition Number 1(F) indicate that the source exceeds the limitation of Special Conditions Number 1(A), 1(B), 1(C), and 1(D).
2. Control Device
High efficiency filters must be in use at all times when the spray guns are in operation and shall be operated and maintained in accordance with the manufacturer's specifications.
3. Operational Requirements
General Steel Fabricators shall keep the solvents and cleaning solutions in sealed containers whenever the materials are not in use. General Steel Fabricators shall provide and maintain suitable, easily read, permanent markings on all solvent and cleaning solution containers used with this equipment.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2005-09-099
Installation ID Number: 097-0157
Permit Number:

General Steel Fabricators
927 South Schifferdecker Avenue
Joplin, MO 64801

Complete: September 29, 2005
Reviewed: November 23, 2005

Parent Company:
Doane Pet Care
P.O. Box 2487
Brentwood, TN 37024-2487

Jasper County, S8, T27N, R33W

REVIEW SUMMARY

- General Steel Fabricators has applied for authority to construct a metal fabricating operation.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from the surface coating operation are ethylbenzene, xylenes, methyl isobutyl ketone (MIK), toluene, 2-propoxyethanol (a glycol ether), aromatic hydrocarbons, naphthalene, and methyl ethyl ketone (MEK). HAPS from welding are expected to be insignificant. They consist of chromium, nickel, manganese, and cobalt.
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- A high efficiency filter is being used to control the PM₁₀ emissions from the equipment in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOCs and PM₁₀ are conditioned to below de minimis levels. Potential emissions of individual and combined HAPs are conditioned to below major levels.
- This installation is located in Jasper County, an attainment area for all criteria air pollutants.

- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].
- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.
- Emissions testing is not required for the source.
- No Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

General Steel Fabricators is an existing installation which performs metal fabricating operations at a facility located in Joplin, Missouri. Incoming metal is conveyed to a metal finishing operation which may include abrasive blasting, punching, welding, and drilling. The metal component is then conveyed to a surface coating spray booth which is then vented to the atmosphere. After being painted, the metal component is conveyed to assembly operations.

No permits have been issued to General Steel Fabricators from the Air Pollution Control Program.

PROJECT DESCRIPTION

General Steel Fabricators operates a metal fabricating operation. The pollutants of concern for this operation are PM₁₀, VOCs, and HAPs. The sources of emissions are from abrasive blasting, welding, and surface coating.

The abrasive blasting operation (F-AB) will take place outside within a roofed area. The maximum amount of abrasive used is equal to 267.5 pounds per hour. This is based on ¼ inch nozzle operating at a maximum of 85 pounds per square inch (psi) with sand as the media.

The welding operation (F-W) will generate small amounts of particulate matter and HAPs, specifically chromium, nickel, manganese, and cobalt. The maximum hourly design rate of 3.75 pound of weldment per hour is based on historical usage.

The surface coating operation (EP-SC1 and EP-SC2) consists of a paint room with two vents used for both painting and drying. The maximum application rate of the surface coating operations is 7.2 gallons per hour and is based on the flow rate of the gun (0.12 gallons per minute). Actual usage will be much lower since hours of surface coating are limited to 3 hours per day because of the physical size of the painting area and the drying time of 24 hours that is required. However, the installation has requested using the higher maximum hourly design rate of 7.2 gallons per hour in the event that they switch to a faster drying surface coating material.

EMISSIONS/CONTROLS EVALUATION

The emission factors used in the analysis of the abrasive blasting and welding operations were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, 12.19 *Electric Arc Welding* (1/95) and 13.2.6 *Abrasive Blasting*(9/97). State and Territorial Air Pollution Program Administrators / Association of Local Air Pollution Control Officials (STAPPA / ALAPCO) document, *Air Quality Permits: A Handbook for Regulators and Industry*, Volume 1 (5/91) was used to determine the maximum amount of abrasive used in the abrasive blasting operation.

The potential emissions for the surface coating operations were calculated using a mass balance approach and information obtained from the Material Safety Data Sheets (MSDS). It is assumed that 100% of the VOCs contained in the coatings are emitted. The following VOCs are also considered to be HAPs: ethylbenzene, xylenes, MIBK, toluene, 2-propoxyethanol, aromatic hydrocarbons, naphthalene and MEK. 2-propoxyethanol is not listed specifically in Attachment H: HAP threshold levels. Therefore, 2-propoxyethanol is included under the glycol ether grouping which has a SMAL of 5 tons per year. The applicant has requested a limit on glycol ethers and therefore does not require screen modeling.

PM₁₀ emissions are evaluated based on the solids content of the paint or coating and a transfer efficiency from the spray gun (50%). The solids content of the material was conservatively estimated by taking the density of the paint and subtracting the VOC content and assuming the remainder to be all PM₁₀. PM₁₀ emissions are controlled through the use of fabric filters that have at least ninety five percent (95.0%) control efficiency. Using the MSDS provided by General Steel Fabricators, potential emissions of each pollutant was determined for each paint and thinner. It is assumed that the coating consists of 90% paint and 10% thinner. The highest potential emissions for total VOCs, combined HAPs, individual HAPs and PM₁₀ were then used to determine the worst case potential emissions for each pollutant.

Since this installation has never been permitted, there are no existing potential or existing actual emissions. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). The following table provides an emissions summary for this project.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2004 EIQ)	Potential Emissions of the Application	Installation Conditioned Potential
PM ₁₀	15.0	N/A	N/D	33.6	<15
SO _x	40.0	N/A	N/D	N/A	N/A
NO _x	40.0	N/A	N/D	N/A	N/A
VOC	40.0	N/A	N/D	206.2	<40
CO	100.0	N/A	N/D	N/A	N/A
HAPs	10.0/25.0	N/A	N/D	203.4	<10/25
Ethyl Benzene	10.0	N/A	N/D	17.7	<10
Xylene	10.0	N/A	N/D	94.5	<10
MIK	10.0	N/A	N/D	10.9	<10
Toluene	10.0	N/A	N/D	90.8	<10
Glycol ethers	5.0	N/A	N/D	11.4	<5
Aromatic Hydrocarbons	10.0	N/A	N/D	68.1	<10
Naphthalene	10.0	N/A	N/D	11.4	<10
MEK	10.0	N/A	N/D	37.2	<10

N/A = Not Applicable; N/D = Not Determined

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions are conditioned below de minimis levels for VOC and PM₁₀ and below major levels for HAPs.

APPLICABLE REQUIREMENTS

General Steel Fabricators shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's emissions.

- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Susan Heckenkamp
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated September 21, 2005, received September 29, 2005, designating Doane Pet Care as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- STAPPA / ALAPCO document, *Air Quality Permits: A Handbook for Regulators and Industry*, Vol 1 (5/91).
- Material Safety Data Sheets (MSDS)
- Southwest Regional Office Site Survey, dated October 24, 2005.

General Steel Fabricators
Jasper County, S8, T27N, R33W
Project Number: 2005-09-099
Installation ID Number: 097-0157
Permit Number:

Copy this sheet as needed.

Instructions: Choose appropriate VOC calculation method for units reported:

- (a) 1) If usage is in tons - $[\text{Column } 2] \times [\text{Column } 4] = [\text{Column } 5]$;
2) If usage is in pounds - $[\text{Column } 2] \times [\text{Column } 4] \times [0.0005] = [\text{Column } 5]$;
3) If usage is in gallons - $[\text{Column } 2] \times [\text{Column } 3] \times [\text{Column } 4] \times [0.0005] = [\text{Column } 5]$.
- (b) Summation of [Column 5] in Tons;
- (c) 12-Month VOC emissions total (e) from last month's Attachment A, in Tons;
- (d) Monthly VOC emissions total (b) from previous year's Attachment A, in Tons;
- (e) Calculate the new 12-month VOC emissions total. **A 12-Month VOC emissions total (e) of less than 40.0 tons indicates compliance.**

Attachment B: Monthly Combined HAPs Tracking Record

General Steel Fabricators
Jasper County, S8, T27N, R33W
Project Number: 2005-09-099
Installation ID Number: 097-0157
Permit Number:

This sheet covers the month of _____ in the year _____.

Copy this sheet as needed.

Column 1	Column 2 (a)	Column 3	Column 4	Column 5
Material Used, (Name, HAP CAS #)	Amount of Material Used (Include Units)	Density (Pounds per Gallon)	HAP Content (Weight %)	HAP Emissions (Tons)
(b) Total HAP Emissions Calculated for this Month in Tons:				
(c) 12-Month HAP Emissions Total from Previous Month's Attachment B in Tons:				
(d) Monthly HAP Emissions Total (b) from Previous Year's Attachment B in Tons:				
(e) Current 12-month Total of HAP Emissions in Tons: [(b) + (c) - (d)]				

Instructions: Choose appropriate HAP calculation method for units reported:

- (a) 1) If usage is in tons - [Column 2] x [Column 4] = [Column 5];
2) If usage is in pounds - [Column 2] x [Column 4] x [0.0005] = [Column 5];
3) If usage is in gallons - [Column 2] x [Column 3] x [Column 4] x [0.0005] = [Column 5];
(b) Summation of [Column 5] in Tons;
(c) 12-Month HAP emissions (e) from last month's Attachment B in Tons;
(d) Monthly HAP emissions total (b) from the previous year's Attachment B in Tons;
(e) Calculate the new 12-month combined HAPs emissions total. **A 12-Month HAP emissions total (e) of less than 25 tons indicates compliance.**

General Steel Fabricators
Jasper County, S8, T27N, R33W
Project Number: 2005-09-099
Installation ID Number: 097-0157
Permit Number:

This sheet covers the month of _____ in the year _____.

[illegible]

- Individually list each material which emits this specific HAP from this installation;
- Record the amount of HAP emissions already calculated for Attachment B in [Column 5] in Tons;
- Summation of [Column 5] in Tons;
- Record the previous 12-Month individual HAP emission total (f) from last month's Attachment C, in Tons;
- Record the monthly HAP emission total (c) from previously year's Attachment C, in Tons;
- Calculate the new 12-month individual HAP emissions total. **A 12-Month individual HAP emissions**

total of less than ten (10.0) tons indicates compliance.

Attachment D: Monthly Glycol Ethers Tracking Record

General Steel Fabricators
Jasper County, S8, T27N, R33W
Project Number: 2005-09-099
Installation ID Number: 097-0157
Permit Number:

This sheet covers the month of _____ in the year _____.

Copy this sheet as needed

Column 1	Column 2 (a)	Column 3	Column 4	Column 5
Material Used (Name)	Amount of Material Used (Include Units)	Density (Pounds per Gallon)	Glycol Ether Content (Weight %)	Glycol Ether Emissions (Tons)
(b) Total Glycol Ethers Emissions Calculated for this Month in Tons:				
(c) 12-Month Glycol Ethers Emissions Total from Previous Month's Attachment in Tons:				
(d) Monthly Glycol Ethers Emissions Total (b) from Previous Year's Attachment in Tons:				
(e) Current 12-month Total of Glycol Ethers Emissions in Tons: [(b) + (c) - (d)]				

INSTRUCTIONS: Choose appropriate HAP calculation method for units reported:

- (a) 1) If usage is in tons - [Column 2] x [Column 4] = [Column 5];
2) If usage is in pounds - [Column 2] x [Column 4] x [0.0005] = [Column 5];
3) If usage is in gallons - [Column 2] x [Column 3] x [Column 4] x [0.0005] = [Column 5];
- (b) Summation of [Column 5] in Tons;
- (c) 12-Month Glycol Ethers emissions (e) from last month's Attachment D in Tons;
- (d) Monthly Glycol Ethers emissions total (b) from the Previous Year's Attachment D In Tons;
- (e) Calculate the New 12-Month Combined Glycol Ethers emissions total. **A 12-Month glycol ethers emissions total (e) of less than 5.0 tons indicates compliance.**

Attachment E: Monthly PM₁₀ Tracking Record

General Steel Fabricators
Jasper County, S8, T27N, R33W
Project Number: 2005-09-099
Installation ID Number: 097-0157
Permit Number:

This sheet covers the month of _____ in the year _____.

Copy this sheet as needed

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6			
PM₁₀ Emissions from Surface Coating Operations (SC1 & SC2)								
Material Used (Name)	Amount of Material Used (gallons)	Density (Pounds per Gallon)	Solids Content (Weight %)	Efficiency Factor (a)	PM ₁₀ Emissions (Tons) (b)			
				0.025				
				0.025				
				0.025				
				0.025				
				0.025				
(c) Total PM ₁₀ Emissions from SC1 & SC2 Calculated for this Month in Tons:								
PM₁₀ Emissions from Abrasive Blasting Operations (F-AB)								
Amount of Abrasive Used (pounds)	Emission Factor (lbs. PM ₁₀ / lb abrasive)				PM ₁₀ Emissions (Tons) (d)			
	0.013							
	0.013							
	0.013							
	0.013							
	0.013							
(e) Total PM ₁₀ Emissions from F-AB Calculated for this Month in Tons:								
PM₁₀ Emissions from Welding Operations (F-W)								
(f) Total PM ₁₀ Emissions from F-W Calculated for this Month in Tons:					0.1			
(g) Total PM ₁₀ Emissions Calculated for this Month in Tons:								
(h) 12-Month PM ₁₀ Emissions Total from Previous Months Attachment in Tons:								
(i) Monthly PM ₁₀ Emissions Total (c) from Previously Years Attachment in Tons:								
(j) Current 12-month Total of PM ₁₀ Emissions in Tons: [(g) + (h) - (i)]								

INSTRUCTIONS:

- (a) The efficiency factor represents (1 – transfer efficiency) x (1- fabric filter control efficiency) which is equal to (1 - 50%) x (1 – 95%) = 0.025;
- (b) For SC1 & SC2, [Column 2] x [Column 3] x [Column 4] x [Column 5] x [0.0005] = [Column 6];
- (c) Summation of [Column 6] for SC1 & SC2, in Tons;
- (d) For F-AB, [Column 1] x [Column 2] x [0.0005] = [Column 6];
- (e) Summation of [Column 6] for F-AB, in Tons;
- (f) Total PM₁₀ emissions for F-W, in Tons;
- (g) Summation of PM₁₀ emissions {(c) + (e) + (f)}, in Tons
- (h) 12-Month PM₁₀ emissions (j) from last month's Attachment E, in Tons;
- (i) Monthly PM₁₀ emissions total (g) from the Previous Year's Attachment E, In Tons;
- (j) Calculate the New 12-Month Combined PM₁₀ emissions total. **A 12-Month PM₁₀ emissions total (j) of less than 15.0 tons indicates compliance.**

General Steel Fabricators
Jasper County, S8, T27N, R33W
Project Number: 2005-09-099
Installation ID Number: 097-0157
Permit Number:

Copy this sheet as needed.

[illegible]

- Note: The maximum hourly design rate is equal to 6.48 gallons per hour for all paints and 0.72 gallons per hour for thinners, reducers, and the xylene additive.
- $[\text{Column 3}] \times [\text{Column 4}] \times [\text{Column 5}] \times [4.38] = [\text{Column 6}]$,
- Screen Modeling Action Levels for individual HAPs can be found in Attachment G.
- Compare potential emissions of the individual HAP in [Column 6] to those from [Column 7]. If [Column 6] is greater than [Column 7], obtain permission from Air Pollution Control program before using this material.